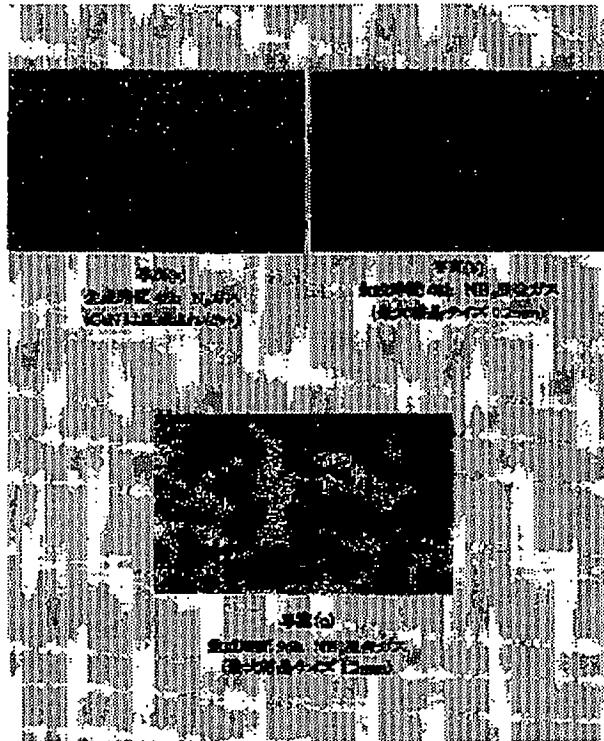


METHOD OF MANUFACTURING CaN SINGLE CRYSTAL

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Applicant: JAPAN SCIENCE & TECH CORP
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- **international:** C30B29/38
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Application number: JP20010097551 20010329
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PROBLEM TO BE SOLVED: To provide an improved method of manufacturing a novel bulk GaN single crystal which is capable of making a the number of nucleus formation, crystal size and total crystal yield higher by improving a growth rate. **SOLUTION:** The method of manufacturing the GaN single crystal by reacting gallium raw material substance in the presence of at least either of sodium substance and gallium substance under a pressurized gaseous nitrogen atmosphere, in which the pressure reaction is effected by at least partly replacing the atmosphere gaseous nitrogen with ammonia.



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Applicant: JAPAN SCIENCE & TECH CORP

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[Claims]

[Claim 1]

A method of manufacturing a GaN single crystal, comprising the step of reacting gallium raw material substance in the presence of at least either of sodium substance and potassium substance under a pressurized gaseous nitrogen atmosphere,

wherein the pressure reaction is effected by at least partly replacing the atmosphere gaseous nitrogen with ammonia.

[Claim 2]

The method of manufacturing the GaN single crystal according to claim 1, wherein the gallium raw material substance is metal gallium, and the sodium substance and the potassium substance are respectively metal sodium and metal potassium.

[Claim 3]

The method of manufacturing the GaN single crystal according to claim 1 or 2, wherein the atmosphere gaseous nitrogen is replaced with the

ammonia of 20 volume % or less.

[Claim 4]

The method of manufacturing the GaN single crystal according to claims 1 to 3, wherein the pressure of the mixed gas of the nitrogen gas and ammonia is set to 10 to 100 atm.